



State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5291
801-359-3940 (Fax)
801-538-5319 (TDD)

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

September 4, 1996

Jay Gatten
Pearl Queen Perlite Corporation
472 North Main
Kaysville, Utah 84037-1173

Re: Initial Plan Review, Large Mining Operation Notice of Intention, Pearl Queen Perlite Corporation (PQP), Pearl Queen Perlite Mine, M/001/027, Beaver County, Utah

Dear Mr. Gatten:

The Division has completed its initial review of your draft Notice of Intention to Commence Large Mining Operations for the Pearl Queen Perlite mine, located in Beaver County, Utah. After reviewing the application and supplemental information, the Division has the following comments which will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion.

R647-4-105 - Maps, Drawings & Photographs

105.2 Surface facilities map

Were the new mine access road, brush disposal area and sediment control dam included in the disturbed area figure? Were the test pits included in the estimate of the disturbed area? Please modify the surface facilities map (Mine Plan) to include a disturbed area border identifying the project disturbance for the first five years. (AAG)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

Please provide a cross sectional drawing of the active mine area showing the typical bench configuration (height, width, angle) during operations. Please provide a similar cross sectional drawing showing the proposed configuration after final reclamation. (AAG)

R647-4-106 - Operation Plan

106.3 Estimated acreages disturbed, reclaimed, annually.

The concurrent reclamation schedule described by the plan is desirable. Concurrent reclamation is encouraged by the Division whenever possible. For clarification, once an area has been reseeded the Division requires up to three growing seasons (three years) before the reseeded area can be fully released. Based on the information provided on page 19 and in Table II and using the three growing season policy, the maximum disturbance which PQP would be responsible for would be approximately 10 acres in year three instead of 7.8. (AAG)

106.4 Nature of materials mined, waste and estimated tonnages

What is the particle size of the reject fines which will be coming from the process plant as waste? What is the estimated density of the overburden (perlite/caliche) in pounds per cubic yard? (AAG)

The NOI indicates fines will be placed back into the mined out areas along with the overburden. If possible, the Division prefers that the fines be placed on the bottom (buried) when replacing the overburden. (LK)

106.5 Existing soil types, location, amount

The NOI indicates 12 inches of topsoil will be salvaged. However, Appendix V was apparently not submitted which contains the soil survey information and analysis. This information is needed to assess the suitability of the topsoil and determine what, if any, soil amendments may be required at the time of reclamation. (LK)

106.6 Plan for protecting & redepositing soils

Please provide detailed plans on how topsoil stockpiles will be protected from further impacts and erosion during operations. (LK)

106.7 Existing vegetation - species and amount

The NOI has provided some basic vegetation information. However, to clarify the data, during the site inspection conducted by the Division on April 22, 1996, the following was observed: Vegetation cover averaged 30%, not the 60% reported. This will make the ultimate revegetation success standard 21% vegetation ground cover. The predominant species observed were mountain big sagebrush, western wheatgrass, indian ricegrass, pinyon and juniper. There was also a considerable amount of cheatgrass. The NOI needs to be amended to contain this information. (LK)

106.9 Location & size of ore, waste, tailings, ponds

The application proposes a sediment pond in an adjacent drainage. It is the Division's recommendation that this pond not be built based on the fact that sediment production should not be a concern, if the mine maintains an active reclamation program and leaves the surface of the reclaimed land in a roughened state. The pond could potentially cause more problems if it fails. (TM)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.15 Constructing berms, fences, etc. above highwalls

Please explain why berms, fences or signs will not be needed to protect the public from hazards at the mine site during operations. (AAG)

107.3 Erosion control & sediment control

The plan indicates that the operator will reclaim the site concurrently. It is the Division's opinion that adequate erosion and sediment control will be achieved by leaving the surface of the reclaimed topsoil in a roughened state. The drainage in the area is ephemeral and surface water quality should be adequately protected using this erosion control methodology based on current mining and reclamation plans. Protection of topsoil salvaged from the project area will be important, given the limited extent of topsoil in the area. Please provide a statement in the plan stating that the final reclaimed surface will be left in a roughened state incorporating native organic matter (grubbed trees & shrubs, etc.) and boulders to help achieve topsoil stability and erosion control. (TM)

107.4 Deleterious material safely stored or removed

Will deleterious materials be stored on site? This includes oil, gas, grease, hazardous chemicals, etc. If these materials are stored on site, they will need to be stored within a 100% containment structure. (LK)

107.5 Suitable soils removed & stored

Please refer to comments under R647-4-106.5 and 106.6 (LK)

107.6 Concurrent reclamation

See comment under R647-4-106.3. (AAG)

R647-4-109 - Impact Assessment

109.1 Impacts to surface & groundwater systems

The applicant may need to obtain a Groundwater Discharge permit as well as a Stormwater permit from the Utah Division of Water Quality. If you have not already done so, please contact them to see if permits are required. The location of any groundwater resources was listed as unknown. There is a geothermal well located within a mile of the site and reference to the depth and potential impact to that well should be discussed. The surface water in the area is totally ephemeral and, therefore, is not an issue, other than for erosion control. (TM)

109.4 Slope stability, erosion control, air quality, safety

Some discussion of regrading methods taken to promote topsoil stability on reclaimed slopes like the use of surface roughness, contour furrows, etc. would be appropriate to demonstrate the erosional stability of reclaimed slopes. (TM)

R647-4-110 - Reclamation Plan

110.1 Concurrent & post mining land use

Wildlife habitat should be added to both the pre-mining and post-mining land use. (LK)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

The plan does not necessarily address the mining of the small ephemeral drainage to the north end of the property where the pad will be placed within an existing small steep ephemeral drainage. It does not appear to represent a problem if the operator intends to fill in this drainage. The interim and final topography should be discussed and described in terms of operation and reclamation of this drainage. See comments under R647-4-110.3 and 110.5 regarding road reclamation. (TM)

110.3 Description of facilities to be left (post mining use)

Please identify what, if any, roads will be left after mining. A letter from the School Institutional Trust Lands Administration (SITLA) will be needed if any roads are to remain, identifying the road and the reason for leaving the road. (LK)

110.5 Revegetation planting program

The application provides a framework for revegetation briefly describing basic accepted practices for seedbed preparation and seeding. However, more detail as to how roads will be reclaimed is needed (see R647-4-110.3). The applicant has deferred to the Division and the Land Management Agency (SITLA) for recommendations for soil amendments and species to be seeded. As stated under R647-4-106.5, the Division will need to evaluate the soils data before a recommendation can be made as to soil amendments. Attached is a recommended seed mix for revegetation that is acceptable to both the Division and SITLA. Please acknowledge if this is also acceptable to Pearl Queen Perlite Corp. (LK)

R647-4-111 - Reclamation Practices

111.2 Reclamation of natural channels

One ephemeral drainage exists now; however, the plan does not describe the final disposition of this drainage. Please provide this information. (TM)

111.3 Erosion & sediment control

See previous comments under R647-4-109.4. (TM)

111.8 All roads & pads reclaimed

See comments under R647-4-110.3 and 110.5 (LK)

111.12 Topsoil redistribution

See comments under R647-4-106.5 and 106.6. (LK)

R647-4-112 - Variance

No variances were requested in this submission. The Division interprets this to mean that all applicable portions of R647-4-107 Operation Practices, R647-4-108 Hole Plugging Requirements, and R647-4-111 Reclamation Practices, will be fully complied with. (AAG)

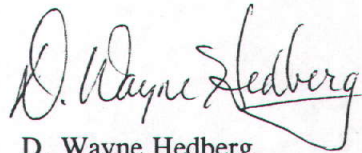
Page 5
Jay Gatten
M/001/027
September 4, 1996

R647-4-113 - Surety

PQP requested that the Division calculate a reclamation estimate for this project. A draft reclamation estimate has been prepared (copy attached). The draft figure for a reclamation surety in terms of the year 2001 dollars is \$56,400. The total disturbed acreage used in this estimate was based on the proposed mine sequence described in Table II, page 21 extended to year four. Due to the Division's policy of requiring revegetated areas to survive up to three growing seasons prior to release, the Division may not be able to release areas reclaimed in year two until year five. For this reason a total disturbance of approximately 10.4 acres was used in the estimate. The largest line item in the estimate was for replacing the overburden (perlite/caliche) over the mine disturbance. Please review this estimate and in particular, examine the mine sequence acreage and volumes of overburden and soil estimated. (AAG)

The Division will suspend further review of the mine NOI until your response to this letter is received. If you have any questions in this regard please contact me, Tony Gallegos, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,



D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachments: recommended seed mix; draft reclamation surety estimate
cc: Mary Ann Wright, DOGM
John Blake, SITLA
M001027.let

RECLAMATION ESTIMATE**DRAFT**

Pearl Queen Perlite Corporation

last revision

08/22/96

Pearl Queen Perlite Mine

filename M01-27.WB2

page "ESTIMATE"

M/001/027

Beaver County

Prepared by Utah State Division of Oil, Gas & Mining

Details of Final Reclamation**-RECLAMATION TREATMENTS IN THIS ESTIMATE ARE ASSUMED**

- This estimate is based on the 2/7/96 & 2/27/96 submissions
- This project involves a state lease (SITLA ML3092)
- Disturbance created under the SMO is: access road 0.54 acre, pit #2 0.14 acre
- Overburden & topsoil will be salvaged & stockpiled for use in final reclamation
- All slopes will be at 2h:1v or less at final reclamation
- All equipment & facilities will be portable
- ASSUMED : SMO 0.68 acre, roads 0.7 acre, mine & processing 9 acres [over 4 years]
- ASSUMED all disturbed areas will receive revegetation treatments
- Revegetation will include scarifying/ripping, drill or broadcast seeding
- Overburden volume (9 acres, 8 ft thick) 9 acre 8 ft 116,160
- Topsoil volume (9 acres, 1 ft thick) 9 acre 1 ft 14,520
- Estimated total disturbed area for the Pearl Queen Perlite Mine = 10.38 acres

Activity	Quantity	Units	\$/unit	\$	notes
Grade overburden into pit	116,160	CY	0.31	36,010	(1)
Grade topsoil onto overburden	14,520	CY	0.31	4,501	(1)
Rip access roads	1.00	acre	281	281	(2)
Mulching (1 ton/acre)	0.00	acre	100	0	(3)
Fertilizing (200lb/acre diammonium phosphate	0.00	acre	90	0	(4)
Broadcast seeding (11.5 lb/acre)	10.38	acre	105	1,090	(5)
General site cleanup (1/2 area)	5.19	acre	50	260	(6)
Mobilization	1	equip	1000	1,000	(7)
Reclamation supervision (est 10 days)	10	days	200	2,000	(8)
	Subtotal			45,141	
10% Contingency				4,514	
	Subtotal			\$49,655	
Escalate for 5 years at 2.58% per yr				6,745	
	Total			\$56,400	
Rounded surety amount in yr 2001-				\$56,400	
Average cost per disturbed acre =		\$5,434			

Recommended Revegetation Species List

Pearl Queen Perlite Corporation
Pearl Queen Perlite Mine
M/001/027

Prepared by DOGM May 17, 1996

<u>Common Name</u>	<u>Species Name</u>	<u>*Rate lbs/ac (PLS)</u>
'Hycrest' crested wheatgrass	<u>Agropyron cristatum 'Hycrest'</u>	0.5
Intermediate wheatgrass	<u>Agropyron intermedium</u>	1.0
'Piute' Orchard Grass	<u>Dactylis glomerata</u>	0.5
Basin Wildrye	<u>Elymus cinereus</u>	1.5
Indian ricegrass	<u>Oryzopsis hymenoides</u>	1.5
Ladac Alfalfa	<u>Medicago sativa</u>	1.0
Yellow sweetclover	<u>Melilotus officinalis</u>	0.5
Palmer penstemon	<u>Penstemon palmeri</u>	0.5
Small burnet	<u>Sanguisorba minor</u>	1.5
Wyoming big sagebrush	<u>Artemisia tridentata wyomingensis</u>	0.1
4-Wing Saltbush	<u>Atriplex canescens</u>	1.0
Rubber rabbitbrush	<u>Chrysothamnus nauseosus</u>	0.25
Forage kochia	<u>Kochia prostrata</u>	0.5
Total		10.35 lbs/ac

*This is the recommended drill seeding rate.
If the species are to be broadcast seeded, increase the rate by 50%.

Average cost per disturbed acre =

Rounded surety amount in yr 2001-\$

\$56,400

\$5,434

notes

	CY/hr	hr	=>days
	835	0.0	0
(1)	D10N, 100 ft push, 2,550 lb/cy, 1 ft depth		
(1)	D10N, 100 ft push, 2,550 lb/cy, 1 ft depth		
(2)	D10N, ripping 1 mph		
(3)	mulch \$85, spread \$15		
(4)	fertilizer \$80, spread \$10		
(5)	seed 15.5 lb/acre=>\$95/acre, \$10 labor		
(6)	DOGM		
(7)	DOGM, 1 dozer		
(8)	DOGM, 10 hr day \$20/hr		